



United States
Department of
Agriculture

Forest
Service

Lassen
National
Forest

55 So Sacramento St.
Susanville, CA 96130
916-257-2151 VOICE
916-257-6244 TTY

Lat 39.12892 Lon -120.70824

File Code: 3420
Route to: 2470

Date: April 28, 1997

Subject: Monitoring for root disease in ripped skid trails in
Sallier Creek TS, Evaluation #NE97-3

To: District Ranger, Foresthill RD

At the request of Gail Parn, District Silviculturist and Jane LaBoa, Forest Silviculturist, I examined a commercial thinning in the Volcano Plantation. The three of us visited the Sallier Creek Timber Sale area last Fall. The purpose of our examination was to determine whether or not ripping the skid trails introduced blackstain root disease.

The Sallier Creek TS units were primarily ponderosa pine that was planted about 30 years ago. Tree heights range from about 30' to 50' and dbh's range from about 10" to 18". The units were thinned using a feller-buncher with a chain saw cutting head. The freshly cut stumps were treated with borate compounds to keep from introducing annosus root disease. The bunches of whole trees were skidded to the landings. The thinning was completed about 1994. The landings and skid trails were ripped the next year by a crawler-tractor with two ripping blades. Ripping depth varied with soil conditions and slope.

In reviewing the ripping, I observed skid trails with both pine stumps and roots up to two inches and greater in diameter uprooted. There was no question that the pine roots were disturbed. However, I didn't know whether or not this disturbance introduced root disease. There are several blackstain root disease studies currently under way in Region 5 that should answer the question. Due to the life cycle of the blackstain pathogen, pine mortality in the ripping studies should not occur from the root disease for about ten years. Until then, the question remains unanswered.

Intuitively, if mechanical root disturbance in the Volcano Area caused an increase in root disease, we might have observed an increase in root disease along forest roads in the area where root systems were disturbed decades ago, during construction. This is not the case. However, it is known that blackstain root disease is associated with ground disturbance. And the ground disturbance from ripping is somewhat different than that created by previous road construction. Therefore, as with any new practice, it is wise to monitor areas where skid trails have been ripped after harvest for root disease and other forest health problems.

In order to monitor for root disease in the treated area, I mapped the ripped skid trails using a hand-held Trimble Geo Explorer GPS system. The data files were collected on April 10, 11 and 15 and corrected with basefiles from the



Caring for the Land and Serving People

Printed on Recycled Paper
FS-6200-28b (12/93)





USFS Sacramento base station. In traversing the ripped skid trails, I observed no evidence of root disease in the pine. (The most obvious forest health problem was a large number of broken tops from winter storms. This condition is being evaluated by Sheri Smith, FPM entomologist, in a separate study.)

I have attached a GPS map of the ripped skid trails and landings on the Sallier Creek TS. The access road is also shown. I am enclosing a computer disk with the Trimble GPS files. File "ALLTILL" contains the line and area features for the tilled skid trails and landings on the Sallier Creek TS. The "ROAD" file contains the line feature for the access road from the main Foresthill Divide Road.

In the future, managers and field crews should alert FPM if root disease becomes a problem in the area. At that time, any root disease centers can be mapped with GPS. The resulting locations can then be compared with the 1997 skid trail data, using GIS or GPS software, to see if the centers are adjacent to the ripped skid trails. If root disease is concentrated along the ripped trails, then ripping may be the cause. (Root disease along non-ripped skid trails should also be evaluated at the same time.)

In addition, it is important to evaluate all aspects of tree health along the ripped skid trails in the future. This is to determine all positive and negative effects of the ripping on the trees.

If you have any questions or requests, please contact me at (916) 257-2151 or send me a DG message at B.WOODRUFF:R05F06A.

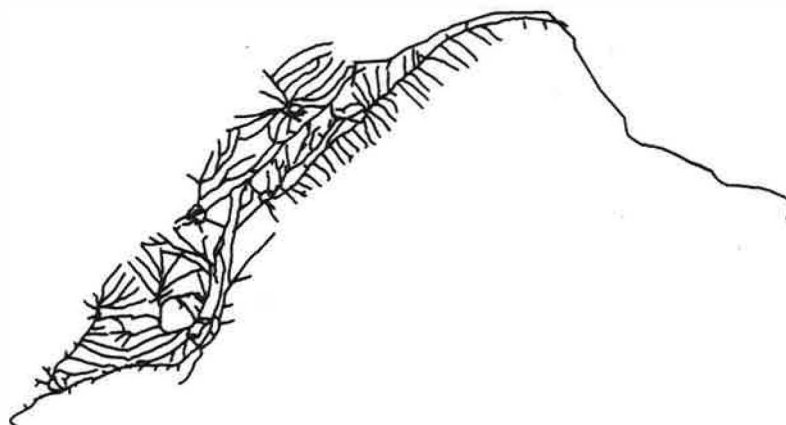
Bill Woodruff

BILL WOODRUFF
Plant Pathologist
NE California FPM Service Area

Attachment
Enclosure



FORESTHILL RIPPING 4/97



Scale 1:24000
NAD-27 CONUS
State Plane [CALIFORNIA ZONE 1 0401]

C:\PFPRO\DATA\WOODY\ALLTILL
Tick Interval - 2.5 Minutes
Master Tick Position - 39x05.0'N 120x042.5'W